



Unit 2 Lesson 3

The Name Game

- 1 Your teacher is going to time you for 15 seconds. Your job is to print your first name as many times as you can during those 15 seconds. Record the total number of times you were able to write your name and any fractional parts of your name in the appropriate row of the table below.
- 2 Use the data you recorded to complete the rest of the table.

Time (in seconds)	Number of names you wrote
15	
30	
45	
60	
75	
90	
105	
120	

- 3 What patterns do you see in the table?
- 4 How many times do you think you could print your name in 5 minutes? Justify your answer.
- 5 How many names could you have written in 5 seconds?



Word Power

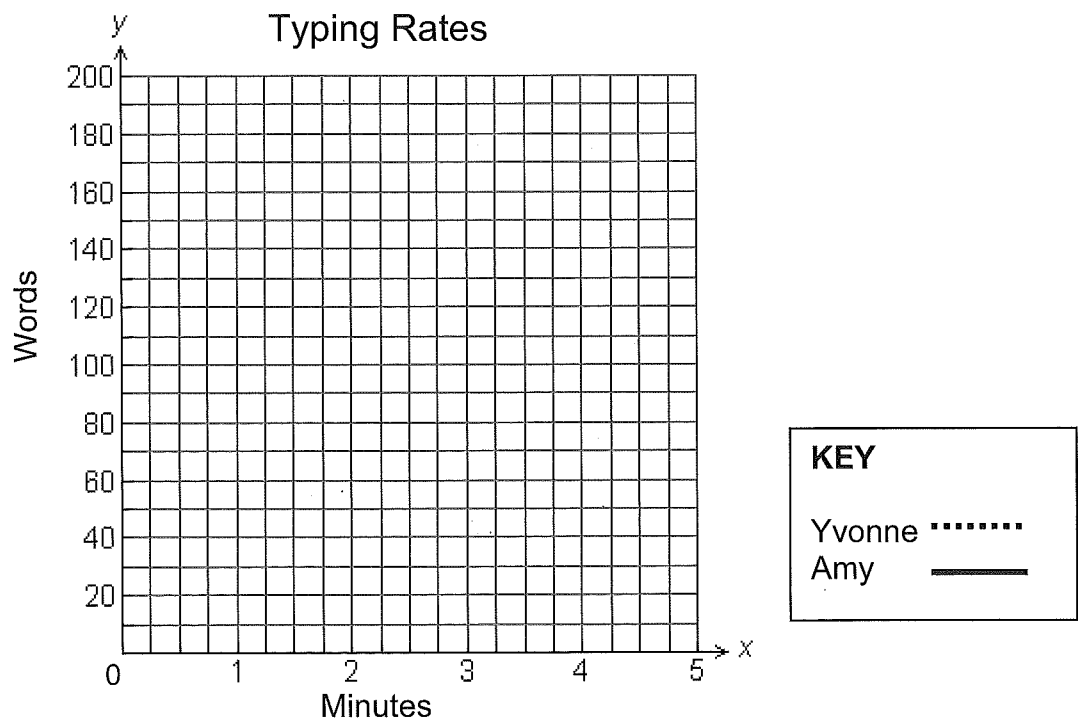
- 1 Yvonne types 11 words in 15 seconds. Amy types 130 words in $2\frac{1}{2}$ minutes. Use the tables and graph below to determine who types at the faster rate of speed. Justify your answer.

Yvonne's Typing Rate

Seconds	Words

Amy's Typing Rate

Minutes	Words





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Word Power

- 2 Kathy, Jamie, and Betsy took a speed reading course. Kathy read 180 words in 30 seconds. Jamie read 210 words in 45 seconds. Betsy read 480 words in $1\frac{1}{2}$ minutes.

Use the tables and graph below to explore their reading rates. Then arrange the readers in order from the slowest reader to the fastest reader. Justify your answer.

Kathy's Reading Rate

Seconds	Words

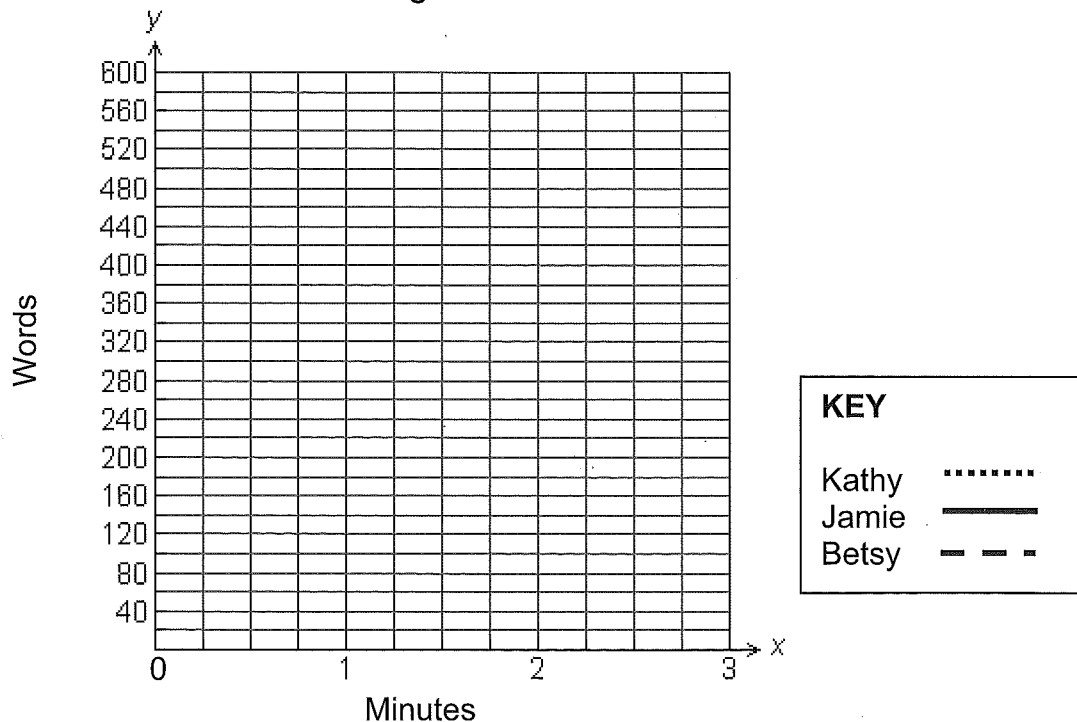
Jamie's Reading Rate

Seconds	Words

Betsy's Reading Rate

Seconds	Words

Reading Rates





Independent Practice

A rate is a ratio that compares 2 different units. Examples of rates include feet per second, miles per gallon, and words per minute.

You can determine equivalent rates and create graphs and tables in order to make predictions and comparisons.

Example: During morning rush hour, Paul drove 5 miles in 15 minutes. How many miles per hour was Paul driving at that time?

Paul's driving rate was $\frac{5 \text{ miles}}{15 \text{ minutes}}$.

Determine equivalent rates

Since the question asks for miles per hour, multiply by the same factor in order to determine how many miles Paul will travel in 60 minutes (1 hour).

$$\frac{5 \text{ miles} \times 4}{15 \text{ minutes} \times 4} = \frac{20 \text{ miles}}{60 \text{ minutes}} = \frac{20 \text{ miles}}{1 \text{ hour}}$$

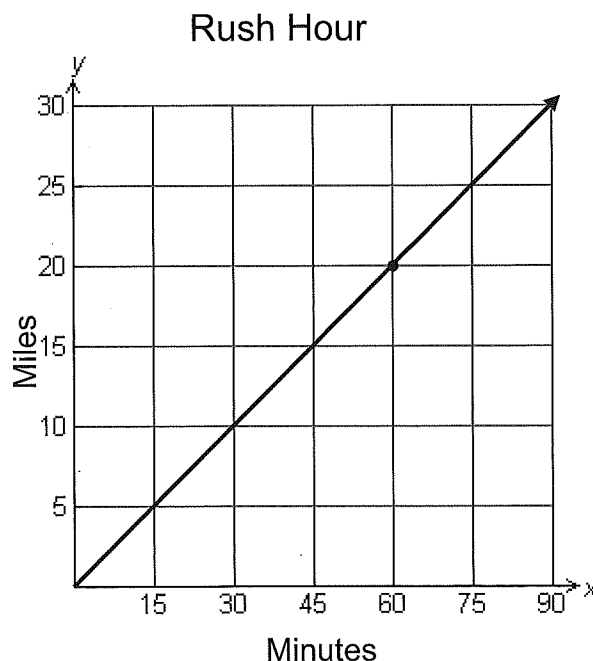
Paul was driving 20 miles per hour.

Create a table

Rush Hour	
Minutes	Miles
15	5
30	10
45	15
60	20
75	25

Since 60 minutes equals 1 hour, Paul was driving 20 miles per hour.

Create a graph



From the graph, you can see that in 60 minutes Paul is able to drive 20 miles.



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- 1 A cookie recipe calls for $1\frac{1}{2}$ cups of sugar to make 18 cookies. Use a table to determine the number of cups of sugar needed to make 24 cookies.

Cups of Sugar	Cookies

- 2 Which car gets better gas mileage: one that can travel 150 miles on 6 gallons of gas or one that can travel 96 miles on 4 gallons of gas? Justify your answer.

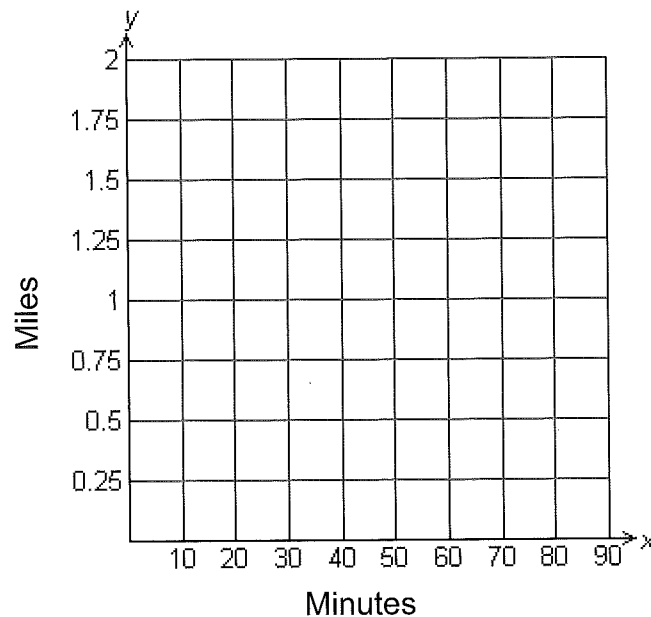
- 3 A copy machine makes 20 copies in 45 seconds. Use a table to determine the number of seconds it will take to make 640 copies.

Seconds	Copies

- 4 Drew is paid \$45 for 6 hours at his lifeguard job. At this same rate, how much will he be paid for 35 hours of work?



- 5 Nancy's car travels 300 miles on 12 gallons of gas. How many gallons of gas will she need in order to drive 650 miles?
- 6 Don sold 4 cars during the first week of January. If this rate stays constant, about how many cars should he expect to sell in 1 year?
- 7 Carlie is able to walk $\frac{3}{4}$ mile in 30 minutes. Use a graph to determine how many minutes it would take Carlie to walk 1 mile.



- 8 A store sells apples in 5-pound bags for \$2.25. If the price per pound is the same, how much will a 20-pound bag of apples cost?
- 9 For every \$25 spent at the candle store, the customer receives a discount of \$3. How much will a customer pay on a \$75 purchase, excluding tax?



Unit 2 Lesson 3

Run, Eddie, Run!

Eddie is running a 28-mile marathon. His goal is to complete the marathon in 5 hours. He runs 6 miles in the first hour. How many miles per hour should he run on average for the remainder of the marathon in order to meet his goal? Justify your answer.



FOR TEACHER USE ONLY:

a. YES NO Student arrives at a correct solution?

	4	3	2	1
b. Conceptual Knowledge				
c. Procedural Knowledge				
d. Communication				



- 1 Robbie ran 150 meters in 25 seconds on Monday. He ran the same distance on Tuesday but in 5 fewer seconds. How many meters per second did Robbie run on Tuesday?

A 30 meters per second
B 7.5 meters per second
C 7 meters per second
D 5 meters per second

- 2 Mark can download 16 songs in $1\frac{1}{2}$ minutes. Which of the following rates is equivalent to Mark's download rate?

A 8 songs in 30 seconds
B 12 songs in 1 minute
C 24 songs in $2\frac{1}{2}$ minutes
D 48 songs in $4\frac{1}{2}$ minutes

- 3 A box of 18 pencils costs \$2.16. If the price per pencil is the same, how much does a box of 24 pencils cost?

A \$3.12
B \$2.88
C \$2.76
D \$0.72

- 4 The prices and sizes of 4 different cereals are listed in the table below.

Cereal Boxes

Cereal	Size	Price
Alpha Crunch	18 oz.	\$1.98
Blueberry Surprise	12 oz.	\$1.44
Cocoa Blast	24 oz.	\$3.36
Dunkin' Oats	10 oz.	\$1.50

Which cereal has the lowest price per ounce?

A Alpha Crunch
B Blueberry Surprise
C Cocoa Blast
D Dunkin' Oats